SOCIAL INNOVATION AND PARTICIPATIVE ACTION RESEARCH

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ABSTRACT: *Some of the more traditional social research methods have been challenged by new ways of thinking, especially for some small groups or marginalized communities. Social innovation has thus come into the attention of many researchers and, in the context of citizen science, has proven to refresh the staleness of routine classical research. Participatory Action Research uses social innovation in the context of citizen science not only to employ a more active strategy in the progression of a research project, but also encourages participation in all or some stages of the project of the subjects of the project or the beneficiaries themselves. Their involvement comes with benefits, but also with some risks to which the professional researcher has to pay attention, to avoid compromising the quality of the study. The benefits however seem to outweigh the risks, at least in some successful applications.*

Keywords: participatory action research; social change; social innovation; citizen science;

Social innovation – a concept under refinement

Innovation is a feature of humanity so prevalent in many areas. The association of two widely defined and diverse definition terms of "innovation" and "social" could entail multiple ambiguous meanings of the social innovation binome. It is nevertheless one of the frequently mentioned concepts in the discourse on the limits of the classical models of welfare (Brandsen et al., 2016).

Social innovation is seen as involving new practices and creative initiatives that make possible social change in various contexts like education, environment, employment, culture, health and others, although not just anyhow, but in ways that are different than current practices. In essence, these "innovative" changes are made for certain social objectives. As such, even the term "social" is difficult to capture in a unique definition, Evers and Ewert (2015) say, and all innovation be it technical, economic, political, artistic etc. should be primarily conceived as social (Aderhold, 2016 apud Schermer and Kroismayr, 2020), that is in its broader sense, as social improvement because, as Howaldt, Kopp i Schvarz (2015) say, the essence of social innovation is to produce desirable results at the social practice level.

As a boldly affirming concept in last decade's social practice, social innovation is tightly connected to social change, which as Gabriel Tarde theorized, according to Howaldt, Kopp and Schwarz (2015), includes three inter-relationship processes of society: invention, imitation and opposition. Tarde considered that a very small number of agents (1% according to his estimates) is involved in creative processes, fact that if true, results in a scarcity of social innovators and thus of innovation itself. Howaldt, Kopp and Schwarz appreciate as remarkable Tarde's contribution to the understanding of social innovation's sociology as being a mechanism for social change at micro and medium levels. In the above mention authors' view, Tarde places imitation and innovation at the center of his social development theory, as opposes to Schumpeter, for whom the innovator (labeled "entrepreneur") is at the core of his view. It is remarkable how the accumulation of less than glorious ideas and small innovations - which would otherwise pass unnoticed - says Tarde, are the actual engine of social change (Howaldt, Kopp and Schwarz, 2015, p.36).

Raising the flag on the riskier aspects of social innovation, Nicholls, Simon and Gabriel (2015, p. 5) warn that although social innovation may create true values for some, it can be destructive for others if misused. The authors go further and explicitly lay down some of the ways in which social innovation can have negative effects like: (1) the establishment of divisive or socially destructive objectives (like shady or secret societies, or extremist political parties); (2) the emergence of unintended or deviant consequences with negative social effects (e.g. the exclusion of some eligible

groups from social goods or services) and (3) just purely operational failures.

Taking these into account, a proper definition of social innovation would be that which stresses improvement rather than simple change and would include in the view of Phillis (2008) a new more effective, more efficient and more sustainable solution to a social problem, or in a simpler way, one that provides solutions with added value at the whole societal level rather than at individual ones (Phills et al. 2008 apud Nicholls, Simon and Gabriel, 2015, p.5).

In attempting to structure the concept of social innovation Schermer and Kroismayr (2020) approach it at two levels: the micro-level involving individual actors which cooperate towards enlarging the action space, improving the quality of life and raising the welfare of certain groups, and the macro level, focused more on governance processes. Evers and Ewert (2015) consider this approach as gaining importance for the challenges faced by Europe.

Nicholls, Simon and Gabriel (2015) approach the concept from a different angle, classifying it on three other levels: incremental - a level on which more effective and efficient products and services solutions are provided to social needs, a level being considered as "the base of the pyramid" more suited to non-governmental, non-profit organizations. The second, institutional level is the one where one seeks the value extraction and re-configuration of existing social and economic structures towards generating new value and social results. The third, disruptive level addresses systemic change and includes social movements, changes in the political power relationships and hierarchy restructuring to benefit those who's rights may have been neglected.

Montgomery (2016) adopts a different analysis again, a paradigmatic definition of social innovation under technocratic v democratic models. The technocratic paradigm rests on a neo-liberal base, employing a rhetoric on the communities' capacity to achieve social innovation. The governance process however relies on experts and on less opportunity for public expression. The democratic paradigm involves a more balanced approach between expertise and community participation, and social innovation is being conceived as a power redistribution instrument from the vertical hierarchies to the horizontal, flatter models.

Keeping in mind some of these theoretical frameworks in broad, general terms, we can also briefly review some of the applications of the concept. One could mention those of digitalization (Chung and Park, 2018), collective intelligence (Tjornbo, 2015), urban development (Brandsen, Cattacin, Everset et al. 2016; Kroismair, Blotevogel and Danielzyk, 2020), community development (Davies et al., 2013) or social movements (Unger, 2015). All of them however flag the ambiguity of the term, in the sense that although one seeks an innovative and new social development framework, social innovation already has a very long history, inevitably intertwined with that of human development in general (Brandsen, Cattacin, Everset et al. 2016). As a matter of fact, the greatest body of social innovation study so far has been generated through- and confirms its inter-disciplinary character. (Pozzebon, Tello-Rozas and Heck, 2021).

Social innovation is increasingly called upon in confronting "difficult modern problems" like climate change, social revolt, the increase in social costs due to increased life expectancy, cultural diversification, pandemic threats, economic abundance-driven behavioral problems, adolescent-to-maturity transitional issues and others alike. To all of these one might also add substantial welfare reforms. In those states that developed complex public health systems and which face visible demographic changes combined with new economic realities, there are calls for rehashing support schemes using social innovation (Nicholls, Simon and Gabriel, 2015).

Following Gabriel Tarde's line of thinking, according to which any invention (innovation, n.n.) is embedded in a dens flow of imitations, one can say that social innovation requires interactions among as many social actors as possible or, in other words "the wisdom of the crowds". Thus governments, the private sector and NGOs even if they work in separate spheres, can have a common interface through which they can overcome the limits of their individual problem solving capabilities. Governments for instance can reconfigure or establish new control and coordination models and they can extend or remodel processes like self-organization, inter-sector cooperation and employ new networks and new forms of knowledge generation. Innovative policies require detachment from routine and the translation of new ideas into new behaviors for knowledge production, alas not many times without challenges. This implies a change of

logic from that of transfer to the logic of transformation say Howaldt, Kopp and Schwarz (2015).

The insufficiently exploited opportunities offered by large internet databases and networks have the promise though of a substantial potential for social innovation, collective action and for e-democracy and e-participation (Chung and Park, 2018). As a matter of fact there already are studies that consistently link social media with social innovation (see Sonne, 2015).

Social Innovation and Citizen Science

Based on the premise that any innovation has some scientific knowledge base, one can tightly relate the concept of social innovation as being sprung from citizen science defined as active involvement of the public in matters of research (Vohland, Göbel, Bálint et al., 2021, p. 1).

According to Haklay, Dörler, Heigl et al. (2021), the term citizen science first appeared in 1989 in MIT Technology Review magazine, in the article entitled Lab for the Environment. In it three examples of community-based laboratories were presented which explored hazardous waste management, the lab work within Greenpeace environmental organization and the citizen science volunteer recruitment process of Audubon environmental organization (Haklay, Dörler, Heigl et al., 2021, p. 13). From then on a series of attempts have been made to formulate a meaningful definition (see Table 1).

In analyzing several Europen Union's countries national-level definitions of citizen science term in order to better understand its various significations, (Haklay, Dörler, Heigl et al., 2021) remarked that although the definitions are diverse and each is particular to its local actors and objectives context, they don't necessarily contradict themselves, but

Table 1. Some Definitions Given to Citizen Science

Organization	Definition
Science Academy of the United States (2018)	The involvement of the public at large in research.
European Community – Environment Protection (2013)	Citizen participation in various schemes like the use of smartphone apps to transmit monitorization data of wildlife or of other small-scale activities.
Socientize (2014)	The involvement of general public in scientific research activities either by intellectual effort or by what one finds out of the environment and through own personal instruments and resources.
UE (2016)	The inclusion of non-institutional participants, in other words of the general public, in the scientific process.
UE (2017)	Citizen science forms when citizens become both providers and utilizers of data. This reinforces and gives new meanings to the publications and data open access policy; this opening should enable citizen and citizen group participation to evidence-based policies and decision making.
Science Europe (2018)	Citizens practice of producing science and of researchers to work with the citizens.
UE (2019)	The Europeans are more and more educated. Helped by digitalization and the body of knowledge, they become more capable to shape the innovative process and short-circuit the traditional restrictive practices.
G7 Science Academies (2019)	Two science categories of citizens. The first which is predominant, is the participative research done by citizens that did not necessarily get formal training in scientific research. It is what historically has been viewed as citizen science. The second, more recent implies some training in the field of research and is for persons under isolation or in remote or virtual communities in order to develop projects outside the typically controlled environments (universities, government or industry research facilities).

Extracted from (M.) Haklay, D. Dörler, F. Heigl *et al.*, 2021, pp. 17-18.

are rather complementary. As such it would not be productive to seek a unique definition, but rather understand that the process of defining it is in its early stages. One can only hope that the debate itself should come to the aid of practitioners and political decision makers.

The landscape of citizen science is not uniform at the EU level either. Some authors contend that the origins of the concept are rooted in the Renaissance period, prior to the institutionalization of science, like in the efforts of notable personalities like Leonardo Da Vinci to find scientific answers to innovative questions (Strasser et al. apud Vohland, Göbel, Bálint et al., 2021, p. 36).

„Notwithstanding the integration efforts, European countries have many differences, one of them being that of citizen science definitions and of practices that result from them. Most of the analyses' conclusions show that while the North-Western and South-Western countries maintain older, 18th century traditions of citizen involvement in projects and programs alongside professional researchers, the central and Eastern ones, having come out from under the burden of totalitarian regimes, do not seem capable to elicit but low citizen involvement levels, mainly limited to exact science and the study of nature (Vohland, Göbel, Bálint et al., 2021).

Participative Action Research and Citizen Science as Forms of Social Innovation

If one starts from 2018 citizen science's definition of United States Academy of Science as signifying the involvement in research of the public at large, Participatory Action Research (PAR) may be looked upon as a way to operationalize citizen science and an illustrative example of social innovation.

Rooted in social justice, PAR distinguishes itself by having the double aim of generating knowledge and promote social change by frequently focusing on small groups or marginalized communities. This method championed by notable figures like Orlando Fals Borda and Paulo Freire leads to a democratization of the research process by integrating local knowledge and experience. At the origin, PAR emerged from the research-action approach driven in its turn by a constellation of practitioners bent on struggling with the failures of social science to

tackle the exploitation and poverty problems in the Global South. Kurt Lewin proposed that research-action be used as an animation technique within which the classical experimental research is supported and oriented towards objectives of social change, being an optimal instrument for social conflict resolution. Subsequently the method adopted also participative concepts and practices and resulted in numerous contextual applications. Nevertheless some researchers engaged in PAR voice their concerns on sharing the control of power because of the risk of lowering the rigor of the research process, thus compromising its quality. To avoid the degradation of rigor to the advantage of action Danley and Ellison say, one should clearly establish from the beginning which aspects like objectives, instruments, procedures or roles are negotiable and which are not (Danley and Ellison, 1999).

Most PAR definitions have in common the inclusion in a project of also the experiences of those who, in traditional research, were just passive subjects. They - Diana Rose (2018) says - should actively be involved in all phases of a classical rigorous research starting from design and all the way through the applications resulting from it, with certain variations. To quote her "Participatory Action Research involves reducing power differentials between researchers and participants. It aims for equal partnership in setting agendas, driving research, and interpreting findings." (Rose, 2018). In Reason's definition two major objectives are sought "One aim is to produce knowledge and action directly useful to a group of people through research, adult education or sociopolitical action. The second aim is to empower people at a second and deeper level through the process of constructing and using their own knowledge." Reason (1997, p.71).

Participatory Action Research methodologies are specific to the social context and are guided by the principles of participation, critical reflection and ethical considerations. For decades PAR has been extended as a scientific practice applied in various contexts, entailed the participation of subject groups and was aimed as social transformation. methodology or approach, PAR privileges active involvement of people with lived experiences, or co-researchers, to generate findings and strategies to effect change (Lenette, 2022). The methodology proved relevant, contributing not only to academic knowledge, but also to results which could be used as a base for action, having shown

benefits to communities directly involved in the research process (Cornish et al. 2023).

PAR is significantly different from traditional research both in spirit as in practice in the sense that while traditional research is usually focused on generating knowledge that is theoretically generalizable, PAR leans more towards context-specific results aimed at social change and prioritizes the value of experiential knowledge towards the empowerment of the participants. The action-oriented nature of the process is also a defining feature, the research process involving not just the researchers, but also with the participants by implementing interventions in the problems under research. The accent on action distinguishes PAR from traditional methods which studied a phenomenon without attempting to modify it. The participation of those under study by classical methods ha become an instrument which is suitable for social change, so participation methodologies bloomed. In PAR the data collection methods are frequently flexible, adaptable and specific to the context, allowing the research process to evolve according to the needs and the perspective of the participant beneficiaries (Cornish et al. 2023). Methods like intervention, focus groups, community mapping, expert panels, participant observation, field notes, group discussion, diary and personal logs, surveys, and questionnaire etc. although used in traditional research too, are nevertheless employed in a more collaborative fashion within PAR, the participants having the opportunity for contribution in all phases of research due also to its iterative style.

Data collection is also different in PAR, the community members engaging actively in the role of co-researchers (Brown, 2024). This aspect is in contrast with the traditional research where the collection of data is typically done by professional researchers who maintain an objective, detached perspective.

Cornwall and Jewkes (1995) compare participatory and conventional research processes and note that the key difference between participatory and other research methodologies lies in the location of power in the various stages of the research process.

Various aspects and applications of PAR are highlighted in the literature reviewed. Juliana Merçon talks about the Latin American tradition of PAR, stressing its origins in collaboration, critical thinking, and social change, despite the challenges of power imbalances and scaling issues (Merçon, 2024). Gearoid Millar et al. explore the struggle of implementing PAR within neoliberal academia, illustrating how institutional constraints can hinder its ideals, as seen in projects across Brazil, Sierra Leone, the UK, and Zambia (Millar et al., 2024). Santiago Roca highlights his experience managing open science projects and advocating for participatory processes in research design and knowledge creation (Roca, 2024). Tara M. Brown's research highlights the pedagogical aspect of PAR, which involves community members as co-researchers to tackle structural inequalities (Brown, 2024). Laurence Cox focuses on the usage of PAR in social movements, emphasizing its benefits for political education and reflective practice among activists (Cox, 2024).

The idea of PAR approach to education research can be found in the work of pedagogical classics, entailing research in which teachers are active participants, not just users or objects of research. A rich literature of PAR can be found in the educational field, where one highlights the pedagogical aspect of PAR like the application of emancipatory pedagogical methods (Gonel et al., 2020), an empowering and youth-centered approach to group work whereby school counselors and students collaborate on researching, creating, and sharing projects about social ills impacting their lives (Levy et al., 2023), a different world where relational, collaborative learning processes with experiments provoke future learning (Riedi et al., 2023), improving gender equality in science and research institutions (Dahmen-Adkins and Peterson, 2024). Tara M. Brown's research highlights the pedagogical aspect of PAR, which involves community members as co-researchers to tackle structural inequalities (Brown, 2024).

One can also find large applications of PAR in art. Visual participatory action research, has been documented in the specialty literature by Leavy (2009) and appears to be rooted in the critical pedagogical practice of the 1970's. One frequently applied notable method is the photovoice method. Photovoice is a process by which people can identify, represent, and enhance their community through a specific photographic technique. As a practice based in the production of knowledge, photovoice has three main goals: (1) to enable people to record and reflect their community's strengths and concerns, (2) to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs, and (3) to reach policymakers (Wang

and Burris, 1997). PAR has also been applied în cinematography. One example is that of a special social documentary that has been made în collaboration with the inhabitants of Siklósbodony, Hungary. The production process was the result of two previous participative visual art shops employing the photovoice method and the community mural painting (Oblath, 2023).

Conclusions

Like in every human endeavor, innovation is key to progress and so is social innovation in social science. Citizen science develops as a solid base for involving the public at large in different stages of a research project, in innovative social methods and in co-production. An active and lively curiosity in scientific knowledge is healthy, should be encouraged, maintained throughout the civil sector and has proven to bring benefits with positive social impact.

One should first allow for a climate of trust to form among organizations that share their social goals, but who traditionally have kept separate roles in attaining their objectives. More collaboration towards success seems to challenge this classical clear separation of roles and, when combined with social innovation, appear to bring surprising benefits where creativity is not hindered anymore by the entrenched traditional methods. Participatory Action Research takes collaboration one step further and encourages it not just between organizations, but between researchers and the subjects of research themselves. Some risks obviously appear in connection with the lack of participants' training, so some minimal formation as co-researchers may be needed.

A significant advantage of the Action-Research over the traditional passive research is that some changes occur during the research process itself, even from early stages, not just after data analysis. This allows for flexibility in the design process and in the application of it or the intervention (Pascaru, 2020, p. 72)

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